

45. (New) An isolated polypeptide selected from the group consisting of:
- a) a polypeptide comprising an amino acid sequence of SEQ ID NO:1,
  - b) a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1,
  - c) a biologically active fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, and
  - d) an immunogenic fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1.

46. (New) An isolated antibody which specifically binds to a polypeptide of claim 45.

47. (New) A diagnostic test for a condition or disease associated with the expression of human nucleotide pyrophosphohydrolase-2 in a biological sample, the method comprising:

- a) combining the biological sample with an antibody of claim 46, under conditions suitable for the antibody to bind the polypeptide and form an antibody:polypeptide complex, and
- b) detecting the complex, wherein the presence of the complex correlates with the presence of the polypeptide in the biological sample.

48. (New) The antibody of claim 46, wherein the antibody is:

- a) a chimeric antibody,
- b) a single chain antibody,
- c) a Fab fragment,
- d) a F(ab')<sub>2</sub> fragment, or
- e) a humanized antibody.

49. (New) A composition comprising an antibody of claim 46 and an acceptable excipient.

50. (New) A method of diagnosing a condition or disease associated with the expression of human nucleotide pyrophosphohydrolase-2 in a subject, comprising administering to said subject an effective amount of the composition of claim 49.

Sub D3 51. (New) A composition of claim 49, wherein the antibody is labeled.

52. (New) A method of diagnosing a condition or disease associated with the expression of human nucleotide pyrophosphohydrolase-2 in a subject, comprising administering to said subject an effective amount of the composition of claim 51.

53. (New) A method of preparing a polyclonal antibody with the specificity of the antibody of claim 46, the method comprising:

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- a) immunizing an animal with a polypeptide having an amino acid sequence of SEQ ID NO:1, or an immunogenic fragment thereof, under conditions to elicit an antibody response,
  - b) isolating antibodies from said animal, and
  - c) screening the isolated antibodies with the polypeptide, thereby identifying a polyclonal antibody which binds specifically to a polypeptide having an amino acid sequence of SEQ ID NO:1.

Sub D4 54. (New) An antibody produced by a method of claim 53.

55. (New) A composition comprising the antibody of claim 54 and a suitable carrier.

56. (New) A method of making a monoclonal antibody with the specificity of the antibody of claim 46, the method comprising:

- a) immunizing an animal with a polypeptide having an amino acid sequence of SEQ ID NO:1, or an immunogenic fragment thereof, under conditions to elicit an antibody response,
- b) isolating antibody producing cells from the animal,
- c) fusing the antibody producing cells with immortalized cells to form monoclonal antibody-producing hybridoma cells,

- d) culturing the hybridoma cells, and
- e) isolating from the culture monoclonal antibody which binds specifically to a polypeptide having an amino acid sequence of SEQ ID NO:1.

57. (New) A monoclonal antibody produced by a method of claim 56.

58. (New) A composition comprising the antibody of claim 57 and a suitable carrier.

59. (New) The antibody of claim 46, wherein the antibody is produced by screening a Fab expression library.

C1 60. (New) The antibody of claim 46, wherein the antibody is produced by screening a recombinant immunoglobulin library.

61. (New) A method of detecting a polypeptide having an amino acid sequence of SEQ ID NO:1 in a sample, the method comprising:

- a) incubating the antibody of claim 46 with a sample under conditions to allow specific binding of the antibody and the polypeptide, and
- b) detecting specific binding, wherein specific binding indicates the presence of a polypeptide having an amino acid sequence of SEQ ID NO:1 in the sample.

62. (New) A method of purifying a polypeptide having an amino acid sequence of SEQ ID NO:1 from a sample, the method comprising:

- a) incubating the antibody of claim 46 with a sample under conditions to allow specific binding of the antibody and the polypeptide, and
- b) separating the antibody from the sample and obtaining the purified polypeptide having an amino acid sequence of SEQ ID NO:1.

63. (New) An isolated polynucleotide selected from the group consisting of:

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- a) a polynucleotide comprising a polynucleotide sequence of SEQ ID NO:2,
  - b) a polynucleotide comprising a naturally occurring polynucleotide sequence at least 90% identical to a polynucleotide sequence of SEQ ID NO:2,
  - c) a polynucleotide complementary to a polynucleotide of a),
  - d) a polynucleotide complementary to a polynucleotide of b), and
  - e) an RNA equivalent of a)-d).

64. (New) An isolated polynucleotide encoding a polypeptide of claim 45.